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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,398	01/24/2001	Conrad F. Fingerson	9538.21US01	1353

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EXAMINER

MCDERMOTT, KEVIN

ART UNIT

PAPER NUMBER

3635

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,398

Applicant(s)

FINGERSON ET AL.

Examiner

McDermott, Kevin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-17 and 24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 is/are allowed.
- 6) ☒ Claim(s) 1-9, 12, 13, and 15-17 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 12, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koye in view of Haesters.

Regarding claims 1 and 15, Koye discloses in figures 1 and 7, and in column 2, lines 9-35, a cross-arm 10 typically used for supporting a plurality of transmission lines on a vertical utility pole, comprising an elongated, generally hollow bar member 11 molded from synthetic material. The bar member 11 preferably has a substantially rectangular shape, although other cross sectional shapes are possible.

Center through holes 30b, 31b enable the cross-arm 10 to be horizontally mounted to a utility pole or other support pole, and the end through-holes 30a, 30c, 31a, 31c enable one or more cross arms 10 to be bolted together as a single unit. Holes 30b, 31b, 30a, 30c, 31a, and 31c are all considered transverse holes, depending on the orientation of the cross-arm 10.

Column 3, lines 12-14 disclose the cross-arm 10 being made from a sheet molding compound of polyester glass reinforced plastic. Glass reinforced plastic is fiber reinforcing.

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The centrally located through-holes 30b, 31b in the front and rear walls 20, 21 of the cross-arm receive a nut and bolt-type fastener 32 that secures the cross-arm 10 directly to the pole 40.

However, Koye does not disclose a hollow reinforcing member disposed in the interior of the cross-arm 10 coinciding with any of the holes, or with the bolt-type fastener 32.

Haesters discloses in figure 3 and in column 2, lines 16-37, a hollow beam 2 having side walls 7, 8. In order to ensure the optimum distribution of the loads to be absorbed by the hollow beam 2, a mounting bolt 5 extending transversely to the hollow beam 2 must be clamped against the side walls 7, 8, extending axially within a spacer 6, at least partially encompassing the mounting bolt 5. Spacer 6 is the claimed hollow reinforcing member. As illustrated in figure 3, the spacer 6 is placed in the interior of beam 2 and coincides with the transverse holes. Spacer 6 also has a first surface defining an inner diameter that is approximately the same diameter as the hole and has a second surface defining an outer diameter that is greater than the hole diameter, and both the first and second surfaces are disposed within the beam 2.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert a spacer in the cross-arm 10 of Koye, thus ensuring the optimum distribution of loads to be absorbed by the cross arm 10.

Regarding claim 2, the spacer 6 of Haesters has a length sufficient to fit within a first interior wall and a second, opposing, interior wall within the beam.

Regarding claim 3, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. It does not matter how the reinforcing member is inserted within the beam because Applicant is claiming the beam/support structure. If Applicant claimed the method of manufacturing the structure then the process of claim 3 would be more relevant.

Regarding claims 4 and 5, the disclosures of Koye and Haester are discussed above. However, Haesters does not disclose the size of the inner and outer diameters of the spacer 6.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the inner diameter less than or equal to about 2.5 centimeters, and to make the outer diameter greater than about 2.5 to less than about 5 centimeters, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

One of ordinary skill would have made such a modification to the spacer 6 could be used with bolt holes able to accommodate several different bolt sizes.

Regarding claim 6, Haester discloses in column 1, line 17, that the spacers are configured as welded tubes. Because they are welded the tubes must be some kind of metal. Therefore, the spacers are made from metal.

Regarding claim 12, figure 1 and column 2, line 44, disclose the cross-arm 10 having end-caps 42.

Regarding claim 16, the insulator is not positively claimed, so Examiner considers the claim as a statement of intended use. Additionally, the claim does not further limit the subject matter of claim 1.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koye in view of Haesters and further in view of Fingerson and Hawley's Chemical Dictionary.

The disclosures of Koye and Haesters are discussed above. However, neither Koye and Haesters disclose making the spacer 6 of Haesters of a fiber reinforced resin, wherein the resin is reinforced with glass or other non-electrically conducting fiber, or wherein the resin comprises polyester or epoxy resin.

Fingerson discloses in figures 2, 3, and 6, and in column 4, line 29 to column 6, line 30, a utility line support structure 10 including a hollow pultruded beam 20 having transverse holes 22 extending therethrough. Beam 20 is made using glass fibers and liquid resin to result in a cured product having a uniform cross section. Bushings 30 are inserted into the transverse holes 22 and include hollow inner member 32/33 and a pair of integral washers 34 arranged on opposite ends of inner member 32 and against outer surface 24 of beam 20. The bushing supports axial loads which can be applied by

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mounting bolts 60, bolts for attaching the insulators 62, or other structure attached to a bushing 30 for supporting a utility line. The primary purpose of the bushing arrangement is to provide structural support to prevent compression damage to beam 20 as would otherwise occur when bolt 60 is tightly torqued.

Additionally, Fingerson discloses the bushings 30 being made of plastic. Plastic is made from a resin. However, Fingerson does not specifically disclose the bushing being made from fiber reinforced resin, wherein the resin is glass and the resin is polyester. Polyester is a plastic.

Hawley's Chemical Dictionary discloses that plastics can also be reinforced, usually with glass or metallic fibers, for added strength. Fingerson also discloses reinforcing the beam 20 with glass fibers.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the spacers 6 of Haesters of glass fiber reinforced plastic.

One of ordinary skill would have made such a modification to make the spacers lighter.

Regarding claim 9, as noted above polyester is a plastic.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyester as the specific plastic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

One of ordinary skill would use polyester as the plastic material because polyester is easily molded.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koye in view of Haesters and further in view of Fingerson.

The disclosures of Koye and Haesters are discussed above. However, neither Koye nor Haesters disclose the end cap 42 of Koye entrapping the ends of the cross arm 10.

Fingerson's disclosure is discussed above. Additionally, Fingerson discloses end caps 50 being plastic molded and an appropriate adhesive 52 applied to an inner side 54 of peripheral walls 56 of end caps 50 to sealingly secure end caps 50 to outer surface 24 of beam 20. The end caps 50 are to prevent moisture from entering the beam 20.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the end caps 42 of Koye to entrap the ends of the cross-arm 10.

One of ordinary skill would have made such a modification to prevent moisture from entering the cross-arm 10.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koye in view of Haesters and further in view of Fingerson.

The disclosures of Koye and Haesters are discussed above. However, neither Koye nor Haesters disclose using the spacer 6 of Haester for mounting an insulator on the cross arm 10.

Fingerson's disclosure is discussed above. Additionally, Fingerson discloses using bushings 75 to mount insulators on beam 20.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made use the spacers 6 for mounting insulators on the cross-arm 10.

One of ordinary skill would have made such a modification to prevent compression damage to the cross-arm 10 as would otherwise occur when the securing bolt is tightened.

Allowable Subject Matter

Claims 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, a support structure having the structural limitations of claim 1, wherein the reinforcing member is held in place with an adhesive forming a watertight seal between the reinforcing member and the beam, and wherein the reinforcing member is held in place by filling the beam with a foam forming a watertight seal between the reinforcing member and the beam.

Claim 24 is allowed.

Regarding claim 24, the following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose and it does not appear obvious to modify the prior art to disclose a utility line support structure having the structural limitations of claim 24, and further holding the reinforcing members in place using foam.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kevin McDermott, whose telephone number is 703-308-8266.



Carl D. Friedman
Supervisory Patent Examiner
Group 3600

KM 8/18/03